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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,995	09/30/2003	Barrett Morris Kreiner	BS030264 (03-BS021)	5237
7590 Scott P. Zimmerman P.O. Box 3822 Cary, NC 27519	11/01/2007		EXAMINER ZHAO, DAQUAN	
			ART UNIT 2621	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/674,995	KREINER ET AL.
	Examiner	Art Unit
	Daquan Zhao	2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 12 September 2007.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-20 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 30 September 2003 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1, 11 and 18 contain newly added limitations that are not supported in the instant applicant application. These limitations are "receiving vehicular data describing powertrain management system information, electrical management system information, and Chassis management system information; storing a set of rules specifying the vehicular data that causes a transfer of a contents of the loop buffer to the memory;"

Claims 2-10, 12-17 and 19-20 are also affected.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 20 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 6-9, 11, 15 and 18 of copending Application No. 10/674840 (#840) filed on 9/12/2007 and further in view of Basir et al (US 2003/0,154,009 A1). Although the conflicting claims are not identical, they are not patentably distinct from each other because

For claim 11 of the instant application, claims 1 and 18 of #840 teach storing in memory at least one of audio data and video data of an event, the video data comprising a series of picture frames; specifying at least one of 1) multiple regions of

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interest within a single picture frame and II) multiple regions of disinterest within single picture frame (see claims 1 and 18 of #840).

However, #840 fails to teach:

- receiving vehicular data describing powertrain management system information, electrical management system information and chassis management system information;
- storing a set of rules specifying the vehicular data that causes a transfer of a contents of the loop buffer to the memory;
- when the vehicular data satisfies a rule, then transferring the contents of the loop buffer to the memory to provide at least one of time-delayed audio data and time-delayed video data, the time-delayed audio and the time-delayed video data preceding the event;
- tagging at least one of the time-delayed audio and the time-delayed video data with metadata describing the rule that caused the contents of the loop buffer to be transferred to the memory .

Basir et al teach:

- receiving vehicular data describing powertrain management system information (e.g. paragraph [0034], data capture module gathers engine parameters, transmission status), electrical management

- system information (e.g. status lights), and chassis management system (e.g. airbag data) information;
- storing a set of rules specifying the vehicular data that causes a transfer of a contents of the loop buffer to the memory (e.g. paragraph [0037]-[0038], vehicle events and statistics is captured by the data capture module);
 - when the vehicular data satisfies a rule, then transferring the contents of the loop buffer to the memory to provide at least one of time-delayed audio data and time-delayed video data, the time-delayed audio and the time-delayed video data preceding the event (e.g. paragraph [0040]-[0041], occurrence of the eccentric event corresponds to the “rule”);
 - tagging at least one of the time-delayed audio and the time-delayed video data with metadata describing the rule that caused the contents of the loop buffer to be transferred to the memory (e.g. paragraph [0031]-[0032], the non-visual vehicle and occupant data described in paragraph [0034], [0038]-[0039] are stored as the event data, the video of the event is “stamps” in synchronized with the non-visual vehicle and occupant data, wherein the “stamps” corresponds to “tagging”).

It would have been obvious to one ordinary skill in the art at the time the invention was made to incorporate the teaching of Basir et al into the teaching of #840 to increase the quality of or resolution for the region of interest.

Claims 1 and 18 of the instant application are rejected for the same reasons as discussed in claim 11 above.

For claim 6 of the instant application, Basir et al teach communicating the contents of the loop buffer via a communication network (e.g. paragraph [0032] and figure 1, the memory bus between volatile storage 8 and non-volatile storage 9 corresponds to the communication network).

For claim 8 of the instant application, Basir et al teach receiving the vehicular data comprises receiving data representing an output from an electrical sensor (e.g. paragraph [0027]).

For claim 10 of the instant application, Basir et al teach interfacing with means for sensing the event (e.g. paragraph [0027]).

For claim 16 of the instant application, Basir et al teach communicating the contents of the loop buffer via a communication network (e.g. paragraph [0032] and figure 1, the memory bus between volatile storage 8 and non-volatile storage 9 corresponds to the communication network).

For claim 15 of the instant application, Basir et al teach interfacing with means for sensing the event (e.g. paragraph [0027]).

Regarding claim 13 of the instant application, claims 1 and 18 of #840 teach applying a set of rules when specifying the multiple regions of interest and the multiple regions of disinterest (see claims 1 and 18 of #840).

Regarding claim 20 of the instant application, claims 1 and 18 of #840 teach applying a set of rules to dynamically vary the bit rate of the transferred contents (see claims 1 and 18 of #840).

Regarding claim 3 of the instant application, claim 8 of #840 teach mass-storage device (see claim 8 of #840).

Regarding claims 4 and 12 of the instant application, claim 9 of #840 teach optical storage device (see claim 9 of #840).

Regarding claim 5 of the instant application, claim 11 of #840 teach Flash storage device (see claim 11 of #840).

Regarding claim 7 of the instant application, claims 6 and 7 of #840 teach transfer the contents of the loop buffer to the memory (see claim 7 of #840).

Regarding claims 9 and 17 of the instant application, claims 15 of #840 teach tagging the video data with a description of the contents of the loop buffer (see claim 15 of #840).

5. Claims 2, 14 and 19 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1,6-9,11,15 and 18 of copending Application No. 10/674840 (#840) filed on 9/12/2007 and Basir et al (US 2003/0,154,009 A1) as applied to claims 1, 3,4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16,

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17, 18, 20 above and further in view of Zimmerman et al (US 2005/0,021,197 A1).

Although the conflicting claims are not identical, they are not patentably distinct from each other because

See the teaching of #840 and Basir et al above.

For claims 2, 14 and 19 of the instant application, #840 and Basir et al fail to teach receiving the vehicular data comprises receiving data representing an output from at least one or a yaw, a pitch, and a roll accelerometer. Zimmerman et al teach receiving the vehicular data comprises receiving data representing an output from at least one or a yaw, a pitch, and a roll accelerometer (e.g. paragraph [0029]). It would have been obvious to one ordinary skill in the art at the time the invention was made to incorporate the teaching of Zimmerman et al into the teaching of #840 and Basir et al to reduce the cost for error inspection and diagnostic for a vehicle (e.g. Zimmerman et al, paragraph [0006]).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

6. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1, 6, 8 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Basir et al (US 2003/0,154,009 A1).

In regards to claim 1, Basir et al teach a method, comprising:

- storing in memory at least one of audio data and video data of an event, the video data comprising a series of picture frames (e.g. paragraph [0030], A/V data are stored in the circular buffer when an eccentric event has been detected; also see paragraph [0045] for audio data);
- storing at least one of the audio data and the video data in a loop buffer (e.g. circular buffer);
- receiving vehicular data describing powertrain management system information (e.g. paragraph [0034], data capture module gathers engine parameters, transmission status), electrical management system information (e.g. status lights), and chassis management system (e.g. airbag data) information;

- storing a set of rules specifying the vehicular data that causes a transfer of a contents of the loop buffer to the memory (e.g. paragraph [0037]-[0038], vehicle events and statistics is captured by the data capture module);
- when the vehicular data satisfies a rule, then transferring the contents of the loop buffer to the memory to provide at least one of time-delayed audio data and time-delayed video data, the time-delayed audio and the time-delayed video data preceding the event (e.g. paragraph [0040]-[0041], occurrence of the eccentric event corresponds to the “rule”);
- tagging at least one of the time-delayed audio and the time-delayed video data with metadata describing the rule that caused the contents of the loop buffer to be transferred to the memory (e.g. paragraph [0031]-[0032], the non-visual vehicle and occupant data described in paragraph [0034], [0038]-[0039] are stored as the event data, the video of the event is “stamps” in synchronized with the non-visual vehicle and occupant data, wherein the “stamps” corresponds to “tagging”).

For claim 6, Basir et al teach communicating the contents of the loop buffer via a communication network (e.g. paragraph [0032] and figure 1, the memory bus between volatile storage 8 and non-volatile storage 9 corresponds to the communication network).

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For claim 8, Basir et al teach receiving the vehicular data comprises receiving data representing an output from an electrical sensor (e.g. paragraph [0027]).

For claim 10, Basir et al teach interfacing with means for sensing the event (e.g. paragraph [0027]).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 11, 13, 15, 16, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basir et al (US 2003/0,154,009) as applied to claims 1, 6, 8 and 10 above, and further in view of Krishnamurthy et al (US 6,496,607 B1).

For claims 11 and 18, Basir et al fail to teach specifying at least one of i) multiple regions of interest within a single picture frame and ii) multiple regions of disinterest within the single picture frame; Krishnamurthy et al teach specifying at least one of i) multiple regions of interest within a single picture frame and ii) multiple regions of disinterest within the single picture frame (e.g. column 6, line 62-column 7, line 10). It would have been obvious for one ordinary skill in the art at the time the invention was made to incorporate the teaching of Krishnamurthy et al into the teaching of Basir et al to increase the quality of or resolution for the region of interest (Krishnamurthy et al, column 7, lines 5-10).

Regarding claim 13, Krishnamurthy et al teach applying a set of rules when specifying the multiple regions of interest and the multiple regions of disinterest (e.g. column 6, line 45- column 7, line 10, different coding standards for various areas of the frame according to the difference in importance corresponds to "a set of rules").

For claim 16, Basir et al teach communicating the contents of the loop buffer via a communication network (e.g. paragraph [0032] and figure 1, the memory bus between volatile storage 8 and non-volatile storage 9 corresponds to the communication network).

For claim 15, Basir et al teach interfacing with means for sensing the event (e.g. paragraph [0027]).

Regarding claim 20, Krishnamurthy et al teach applying a set of rules to dynamically vary the bit rate of the transferred contents of the loop buffer (e.g. column 6, line 45- column 7, line 10, different coding standards for various areas of the frame according to the difference in importance and the bit rate of the data stream is vary due to this reason).

11. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Basir et al (US 2003/0154,009 A1) as applied to claims 1, 6, 8 and 10 above.

See the teaching of Basir et al above.

Regarding claim 3, Basir et al fail to specify the file system 17 is a mass-storage device. The examiner takes official notice for the mass-storage device. It would have

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been obvious for one ordinary skill in the art at the time the invention was made to have utilized a mass-storage device as a file system to increase the storage capacity.

12. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Basir et al (US 2003/ 0,154 ,009 A1) as applied to claims 1, 6, 8, 10, 11, 13, 15,16, 18 and 20 above.

See the teaching of Basir et al above.

Regarding claim 4, Basir et al fail to specify the file system 17 is an optical storage device. The examiner takes official notice for the optical storage device. It would have been obvious for one ordinary skill in the art at the time the invention was made to have utilized an optical storage as a file system to increase the storage capacity.

13. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Basir et al (US 2003/ 0,154 ,009 A1) as applied to claims 1, 6, 8, 10, 11, 13, 15,16, 18 and 20 above.

See the teaching of Basir et al above.

Regarding claim 5 Basir et al fail to specify the file system 17 is a flash memory storage device. The examiner takes official notice for the flash memory storage device. It would have been obvious for one ordinary skill in the art at the time the invention was made to have utilized a mass-storage device as a file system to increase the storage capacity.

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14. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Basir et al (US 2003/ 0,154,009 A1) as applied to claims 1, 6, 8, 10, 11, 13, 15,16, 18 and 20 above, and further in view of Maeda et al (US 6,763,071 B1).

See the teaching of Basir et al above.

Regarding claim 9, Basir et al fail to teach tagging the video data with metadata, the metadata providing a description of the contents. Maeda et al teach tagging the video data with metadata, the metadata providing a description of the contents (e.g. column 12, lines 53-67). It would have been obvious for one ordinary skill in the art at the time the invention was made to incorporate the teaching of Meada et al into the teaching of Basir et al to tag the video data of the loop buffer for prompt identification of the video.

15. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Basir et al (US 2003/0154,009 A1) as applied to claims 1, 6, 8,10, 11, 13, 15,16, 18 and 20 above, and further in view of Fiore et al (US 2002/0,191,952 A1).

See the teaching of Basir et al above.

Regarding claim 7, Basir et al fail to teach a switch to transfer the contents of the loop buffer to the memory. Fiore et al teach interfacing with a switch to transfer the contents of the loop buffer to the memory (e.g. paragraph [0047], swapping between RAM 19 and File system 17 from the circular buffer, "interfacing" corresponds to a wire). It would have been obvious to one ordinary skill in the art at the time the invention was

made to have incorporate the teaching of Fiore et al into the teaching of Basir et al for minimizing dropped frames (Fiore et al, paragraph [0013]).

16. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Basir et al (US 2003/0154,009 A1) as applied to claims 1, 6, 8, 10, 11, 13, 15, 16, 18 and 20 above, and further in view of Zimmerman et al (US 2005/0,021,197 A1).

See the teaching of Basir et al above.

For claim 2, Basir et al fail to teach receiving the vehicular data comprises receiving data representing an output from at least one or a yaw, a pitch, and a roll accelerometer. Zimmerman et al teach receiving the vehicular data comprises receiving data representing an output from at least one or a yaw, a pitch, and a roll accelerometer (e.g. paragraph [0029]). It would have been obvious to one ordinary skill in the art at the time the invention was made to incorporate the teaching of Zimmerman et al into the teaching of Basir et al to reduce the cost for error inspection and diagnostic for a vehicle (e.g. Zimmerman et al, paragraph [0006]).

17. Claims 14 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basir et al (US 2003/0154,009 A1) and Krishnamurthy et al (US 6,496,607 B1) as applied to claims 1, 6, 8, 10, 11, 13, 15, 16, 18 and 20 above, and further in view of Zimmerman et al (US 2005/0,021,197 A1).

See the teaching of Basir et al and Krishnamurthy et al above.

For claims 14 and 19, Basir et al and Krishnamurthy et al fail to teach receiving the vehicular data comprises receiving data representing an output from at least one or a yaw, a pitch, and a roll accelerometer. Zimmerman et al teach receiving the vehicular data comprises receiving data representing an output from at least one or a yaw, a pitch, and a roll accelerometer (e.g. paragraph [0029]). It would have been obvious to one ordinary skill in the art at the time the invention was made to incorporate the teaching of Zimmerman et al into the teaching of Basir et al and Krishnamurthy et al to reduce the cost for error inspection and diagnostic for a vehicle (e.g. Zimmerman et al, paragraph [0006]).

18. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Basir et al (US 2003/ 0,154,009 A1) and Krishnamurthy et al (US 6,496,607 B1) as applied to claims 1, 6, 8, 10, 11, 13, 15,16, 18 and 20 above, and further in view of Maeda et al (US 6,763,071 B1).

See the teaching of Basir et al above.

Regarding claim 17, Basir et al and Krishnamurthy et al fail to teach tagging the video data with metadata, the metadata providing a description of the contents. Maeda et al teach tagging the video data with metadata, the metadata providing a description of the contents (e.g. column 12, lines 53-67). It would have been obvious for one ordinary skill in the art at the time the invention was made to incorporate the teaching of Meada et al into the teaching of Basir et al and Krishnamurthy et al to tag the video data of the loop buffer for prompt identification of the video.

19. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Basir et al (US 2003/ 0,154 ,009 A1) and Krishnamurthy et al (US 6,496,607 B1) as applied to claims 1, 6, 8, 10, 11, 13, 15,16, 18 and 20 above, and further in view of Maeda et al (US 6,763,071 B1).

See the teaching of Basir et al and Krishnamurthy et al above.

Regarding claim 12, Basir et al and Krishnamurthy et al fail to specify the file system 17 is an optical storage device. The examiner takes official notice for the optical storage device. It would have been obvious for one ordinary skill in the art at the time the invention was made to have utilized an optical storage as a file system to increase the storage capacity.

Applicant's amendment necessitated the new ground(s) of rejection presented in this office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEG § 706.07 (a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136 (a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period. Then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daquan Zhao whose telephone number is (571) 270-1119. The examiner can normally be reached on M-Fri. 7:30 -5, alt Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tran Thai Q, can be reached on (571)272-7382. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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